Instructor: Zurine De Miguel, Ph.D.
Office Location: DMH 230
Telephone: (408) (924-6475)
Email: zurine.demiguel@sjsu.edu
Office Hours: Tuesdays 8:00 – 9:00 am, or by appointment.
Class Days/Time: Tu/Th 9:00 – 10:15 am.
Classroom: Clark Building 117 (CL117)
Prerequisites: BIOL 21 or BIOL 65

Faculty Web Page and MYSJSU Messaging
Copies of the course materials such as syllabus, handouts, notes, assignment instructions, etc. can be found on the Canvas learning management system course website. You are responsible for regularly checking with the messaging system through MySJSU to learn of any updates. Please contact me via email or you can call me at (408) (924-6475).

Course Description
Introduction to Psychobiology explores the fundamental biological basis of cognition, behavior and emotion. This course examines the structural and functional study of the nervous system and will consider how the nervous system can use information from the internal and external environments to direct and coordinate adaptive biological and behavioral responses. For example, we will examine how sickness, and the biological transformations it entails, can alter psychological processes. And we will examine how social stress and psychological therapy can modify biological markers relevant to chronic diseases such as cancer.

The lectures complement and expand on the reading material, and in some cases present material that is not in the assigned texts, so attendance is important. The assigned readings are required.
Learning Outcomes and Course Goals (Optional)

General Educational Learning outcomes (GELO)

This course helps to build important skills for communicating ideas and developing critical thinking in the area of psychobiology.

During classes, students will be encouraged to express their own opinions and critical questions thru group discussions of readings. Furthermore, students will select a topic from a pre-selected pool of topics and will engage in oral presentations about that specific topic. Students will receive feedback during their presentations and questions from the audience, which includes other students and myself. For the development of the topic to be presented, students will engage in locating, integrate and evaluating information from a pool of potential sources of information that will be provided.

Course Learning Outcomes (CLO)

COURSE GOALS

Upon successful completion of this course, students will be able to:

1. CLO 1 Identify the functional and structural organization of cells in the central nervous system (CNS)
2. CLO 2 Identify and name the functional and structural organization of the central and peripheral nervous system.
3. CLO 3 Comprehend and describe the neurophysiological and neurochemical mechanisms involved in the communication between cells of the CNS.
4. CLO 4 Relate hormonal functions with activity in the CNS and integrate the activity of both systems with behavior.
5. CLO 5 Identify mediators of the immune system with activity on the CNS and relate this activity with behavioral outcomes.
6. CLO 6 Differentiate the processes of integration and response of the CNS related to the physiological and neuroanatomical basis of sensory information with motor control.

Program Learning Outcomes (PLO)

Upon successful completion of the psychology major requirements…

1. PLO1 – Knowledge Base of Psychology – Students will be able to identify, describe, and communicate the major concepts, theoretical perspectives, empirical findings, and historical trends in psychology.
2. PLO2 – Research Methods in Psychology – Students will be able to design, implement, and communicate basic research methods in psychology, including research design, data analysis, and interpretations.
3. PLO3 – Critical Thinking Skills in Psychology – Students will be able to use critical and creative thinking, skeptical inquiry, and a scientific approach to address issues related to behavior and mental processes.
4. **PLO4 – Application of Psychology** – Students will be able to apply psychological principles to individual, interpersonal, group, and societal issues.

5. **PLO5 – Values in Psychology** – Students will value empirical evidence, tolerate ambiguity, act ethically, and recognize their role and responsibility as a member of society.

**Texts and Readings**

**Textbook**


**Other Readings**

The Professor will provide the following texts;


**Course Requirements, Assignments**

SJSU classes are designed such that in order to be successful, it is expected that students will spend a minimum of forty-five hours for each unit of credit (normally three hours per unit per week), including preparing for class, participating in course activities, completing assignments, and so on. More details about student workload can be found in [University Policy S12-3](http://www.sjsu.edu/senate/docs/S12-3.pdf).

The final grade for the course will be determined based on the number of points accumulated throughout the quarter.

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
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<tbody>
<tr>
<td>3 Midterms</td>
<td>3 x 20</td>
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<tr>
<td>1 Final Exam</td>
<td>25</td>
</tr>
<tr>
<td>Reading Assignment</td>
<td>5</td>
</tr>
<tr>
<td>Group Work Assignments</td>
<td>10 (+2 extra)</td>
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<tr>
<td>Total maximum points=</td>
<td>100</td>
</tr>
</tbody>
</table>

**Score**

100 - 98 A+
97 - 93 A
92 - 90 A-
89 - 88 B+
87 - 83 B
82 - 80 B-
79 - 78 C+
77 - 73 C
72 - 70 C-
69 - 65 D
64 or less F

This course must be passed with a C or better as a CSU graduation requirement.
Midterms and Final Exams: Exams will be composed of multiple choice questions, short answer questions and conceptual maps. The Final Exam will cover all the topics during the course with special emphasis on the chapters covered since the previous exam.

Assignments:
Some assignments will consist on reading paper related to Psychobiology. The group assignment consist on a group project about a topic that students will choose from a pool of selected topics. In-class assignments pretend to stimulate participation and expression of your own opinions and thoughts in Psychobiology through group discussions project presentations from your colleagues. This is a great chance to use the new terminology and concepts learned during the class.

This assignment is based on a simple model for teaching neurobiology and function published by Susan Kennedy in 2013. The assignment is based on active student engagement through presentation and discussion of case studies. The goal is an effective and enjoyable method for learning brain structure-function relationship.

Structure
The main topics of neuroanatomy (6 classes) will first introduce, including main parts of the nervous system, the main brain structures and their functions, the types of cells in the brain and how neuronal communication occurs through action potentials and neurotransmitters.

Students will join in groups of 4 to 5 and they will choose from the following pool of case studies:

1- Huntington’s disease (Oliver sacks and Jenni A. Odge)
2- Korsakov syndrome (Oliver Sacks)
3- Phantom limbs (Oliver sacks or Ramachandran (1998))
4- Tourette syndrome (Oliver Sacks)
5- Depression (Robert Sapolsky)
6- Schizophrenia (Robert Sapolsky and Oliver Sacks)
7- Parkinson (Mind over matter from Jenni A. Odge)
8- Prosopagnosia (Oliver Sacks)
9- Multiple scherosis (Tomorrow is another day from Jenni A. Odge)
10- Epilepsy (Jenni A. Odge)
11- A life with a half brain (Jenni A. Odge)
12- Split brain (Jenni A. Odge)

Presentations will be between 10 to 15 minutes in length leaving 5 to 10 minutes for discussion.

The presentation will include:
1- A description of the general features of the case (as applicable): a description of the subject/patient and a description of the incident(s) that lead to the neurological condition. Explain the individual’s personality and behavior prior to the accident, injury or diagnosis and the state of the individual following injury or disease.
2- Overview of the anatomy relevant to the topic including, when appropriate, brain areas affected, pathways, neurotransmitters and any relevant information about treatment directed to restore the neurobiology. To develop this part of the presentation, students are required to consult literature to identify the neurobiological basics and to convey that knowledge in the context of behavior.
3- Examples of unique behaviors presented by the individual described in the case, relate these behaviors to the structures affected by the injury or illness.
4- There will be a discussion leader that will present 2 to 3 questions (previously prepared by the group) to stimulate thought and discussion.

Students are given the flexibility to divide up the responsibilities for the elaboration of the presentation, but all students are required to become familiar with all components of the case study. All of the presentation planning will take place outside of regular class time, so students are required to organize meeting times that are possible for all group members, and to work collectively on background research and presentation organization.

**Grading and peer evaluation**

1. Organization of the presentation, 2.5 points
2. Clarity of material being communicated, 2.5 points
3. Preparation and overall presentation style (professional appearance, confidence...), 2.5 points.
4. Discussion will be graded on the quality of the prepared questions and their ability to generate discussion, 2.5 points.
5. Group member evaluations. The members of each group will evaluate each other in the following aspects: a) Contribution to the content of the proposal, b) being present and on time for all group meetings and c) how well the group member being evaluated works with others (“team player”), 2 points.

**Objectives**

The main objectives of this assignment is to engage students in the study of brain-behavior relationships using short, manageable case studies of those having suffered some brain injury or disease (CLO4, CLO5 and CLO6 on the present syllabus).

By collaborating with peers in small groups, the projects also allow students work collectively to engage in in-depth analysis of the case and to practice important oral communication skills during the presentation of the case study to the class. Group work setting has been found to have several advantages, including understanding concepts and applying critical thinking skills. This objective helps to build knowledge base of Psychology (PLO1) and to use their critical thinking skills (PLO3)

Finally, the projects allowed for student engagement with material through larger class discussion based on student-created discussion questions following the presentation of the case study. Thus, the entire class is expected to participate in some aspect of the presentation (presentation, discussion leader or general class discussion).

**References**


Please find a tentative course calendar at the end of the present syllabus.

**Grading Policy**

Students should attend all meetings of their classes, not only because they are responsible for material discussed therein, but also because active participation is essential to insure maximum benefit for all members of the class. Attendance per se shall not be used as a criterion for grading.
All assignments must be turned in on the scheduled due date at the beginning of the class. Failure to do a course requirement will result in a score of 0 points for that specific requirement. If the work is turned to me late, each day will reduce the maximal possible score of that requirement by 10%.

All students have the right, within a reasonable time, to know their academic scores, to review their graded work, and to be provided with explanations for the determination of their course grades.

Classroom Protocol

Class attendance: your attendance is essential, my lectures cover material that is not included in the text and this information will be included in the exams.

Use of laptops or tablets: Acceptable for course-related work, such as note-taking or lecture slides.

Make-up Policy: A make-up or extension on a course requirement will be given under extraordinary and well-documented circumstances. Please, notify me by email as soon as possible and no later than two days after the schedule exam. If you are not able to provide documentation notify me as soon as possible. Depending on the circumstances, you may be allowed a make-up on these specific requirements. However, a make-up without appropriate written documentation will result in partial credit on these requirements.

University Policies

General Expectations, Rights and Responsibilities of the Student
As members of the academic community, students accept both the rights and responsibilities incumbent upon all members of the institution. Students are encouraged to familiarize themselves with SJSU’s policies and practices pertaining to the procedures to follow if and when questions or concerns about a class arises. See University Policy S90–5 at http://www.sjsu.edu/senate/docs/S90-5.pdf and SJSU current semester’s Policies and Procedures, at http://info.sjsu.edu/static/catalog/policies.html. In general, it is recommended that students begin by seeking clarification or discussing concerns with their instructor. If such conversation is not possible, or if it does not serve to address the issue, it is recommended that the student contact the Department Chair as a next step.

Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Refer to the current semester’s Catalog Policies section at http://info.sjsu.edu/static/catalog/policies.html. Add/drop deadlines can be found on the current academic year calendars document on the Academic Calendars webpage at http://www.sjsu.edu/provost/services/academic_calendars/. The Late Drop Policy is available at http://www.sjsu.edu/aars/policies/latedrops/policy/. Students should be aware of the current deadlines and penalties for dropping classes.

Information about the latest changes and news is available at the Advising Hub at http://www.sjsu.edu/advising/.

Consent for Recording of Class and Public Sharing of Instructor Material

University Policy S12-7, http://www.sjsu.edu/senate/docs/S12-7.pdf, requires students to obtain instructor’s permission to record the course.

In accordance with University policy, note that “Common courtesy and professional behavior dictate that you notify someone when you are recording him/her. You must obtain the instructor’s permission to make audio or video recordings in this class. Such permission allows the recordings to be used for your private, study purposes only. The recordings are the intellectual property of the instructor; you have not been given any rights to reproduce or distribute the material.” In addition, “Course material developed by the instructor is the intellectual property of the instructor and cannot be shared publicly without his/her approval. You may not publicly share or upload instructor generated material for this course such as exam questions, lecture notes, or homework.
solutions without instructor consent.” According to University policy, in classes where active participation of students or guests may be on the recording, permission of those students or guests should be obtained as well. Instructor’s process for granting permission, whether in writing or orally and whether for the whole semester or on a class by class basis should include the instructor’s process for granting permission.

**Academic integrity**

Your commitment, as a student, to learning is evidenced by your enrollment at San Jose State University. The [University Academic Integrity Policy S07-2](http://www.sjsu.edu/senate/docs/S07-2.pdf) requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The [Student Conduct and Ethical Development website](http://www.sjsu.edu/studentconduct/) is available at [http://www.sjsu.edu/studentconduct/](http://www.sjsu.edu/studentconduct/).

**Campus Policy in Compliance with the American Disabilities Act**

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. [Presidential Directive 97-03](http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf) requires that students with disabilities requesting accommodations must register with the [Accessible Education Center (AEC)](http://www.sjsu.edu/aec) at [http://www.sjsu.edu/aec](http://www.sjsu.edu/aec) to establish a record of their disability.

**Accommodation to Students’ Religious Holidays**

San José State University shall provide accommodation on any graded class work or activities for students wishing to observe religious holidays when such observances require students to be absent from class. It is the responsibility of the student to inform the instructor, in writing, about such holidays before the add deadline at the start of each semester. If such holidays occur before the add deadline, the student must notify the instructor, in writing, at least three days before the date that he/she will be absent. It is the responsibility of the instructor to make every reasonable effort to honor the student request without penalty, and of the student to make up the work missed. See [University Policy S14-7](http://www.sjsu.edu/senate/docs/S14-7.pdf).

**Student Technology Resources**

Computer labs for student use are available in the [Academic Success Center](http://www.sjsu.edu/at/asc/) located on the 1st floor of Clark Hall and in the Associated Students Lab on the 2nd floor of the Student Union. Additional computer labs may be available in your department/college. Computers are also available in the Martin Luther King Library. A wide variety of audio-visual equipment is available for student checkout from Media Services located in IRC 112. These items include DV and HD digital camcorders; digital still cameras; video, slide and overhead projectors; DVD, CD, and audiotape players; sound systems, wireless microphones, projection screens and monitors.

**SJSU Peer Connections**

Peer Connections, a campus-wide resource for mentoring and tutoring, strives to inspire students to develop their potential as independent learners while they learn to successfully navigate through their university experience. You are encouraged to take advantage of their services which include course-content based tutoring, enhanced study and time management skills, more effective critical thinking strategies, decision making and problem-solving abilities, and campus resource referrals.

In addition to offering small group, individual, and drop-in tutoring for a number of undergraduate courses, consultation with mentors is available on a drop-in or by appointment basis. Workshops are offered on a wide variety of topics including preparing for the Writing Skills Test (WST), improving your learning and memory,
alleviating procrastination, surviving your first semester at SJSU, and other related topics. A computer lab and study space are also available for student use in Room 600 of Student Services Center (SSC).

Peer Connections is located in three locations: SSC, Room 600 (10th Street Garage on the corner of 10th and San Fernando Street), at the 1st floor entrance of Clark Hall, and in the Living Learning Center (LLC) in Campus Village Housing Building B. Visit Peer Connections website at http://peerconnections.sjsu.edu for more information.

**SJSU Writing Center**

The SJSU Writing Center is located in Clark Hall, Suite 126. All Writing Specialists have gone through a rigorous hiring process, and they are well trained to assist all students at all levels within all disciplines to become better writers. In addition to one-on-one tutoring services, the Writing Center also offers workshops every semester on a variety of writing topics. To make an appointment or to refer to the numerous online resources offered through the Writing Center, visit the Writing Center website at http://www.sjsu.edu/writingcenter. For additional resources and updated information, follow the Writing Center on Twitter and become a fan of the SJSU Writing Center on Facebook. (Note: You need to have a QR Reader to scan this code.)

**SJSU Counseling Services (Optional)**

The SJSU Counseling and Psychological Services is located on the corner of 7th Street and San Carlos in the new Student Wellness Center, Room 300B. Professional psychologists, social workers, and counselors are available to provide consultations on issues of student mental health, campus climate or psychological and academic issues on an individual, couple, or group basis. To schedule an appointment or learn more information, visit Counseling and Psychological Services website at http://www.sjsu.edu/counseling.
Course Number / Title, Semester, Course Schedule

Course Schedule
The calendar is tentative and subject to change based on student learning. Changes will be announced in class and a revised syllabus will be posted in Canvas.

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<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topics, Readings, Assignments, Deadlines</th>
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<tbody>
<tr>
<td>1</td>
<td>1/28/2016</td>
<td>Introductory class and overview</td>
</tr>
<tr>
<td>2</td>
<td>2/2/2016; 2/4/2016</td>
<td>Function and structure of the nervous system, Ch. 2</td>
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<tr>
<td>3</td>
<td>2/9/2016; 2/11/2016</td>
<td>Synapses and action potentials, Ch. 3</td>
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<tr>
<td>4</td>
<td>2/16/2016; 2/18/2016</td>
<td>Neurotransmitters, Ch. 4</td>
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<td>5</td>
<td>2/23/2016; 2/25/2016</td>
<td>Exam 1 (Tuesday); Neurohormones, Ch. 5,</td>
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<td>6</td>
<td>3/1/2016; 3/3/2016</td>
<td>Sensorial integration, Ch. 9</td>
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<td>7</td>
<td>3/8/2016; 3/10/2016</td>
<td>Visual integration, Ch. 10</td>
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<td>8</td>
<td>3/15/2016; 3/17/2016</td>
<td>Homeostasis regulation, Ch. 13</td>
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<td>9</td>
<td>3/22/2016; 3/24/2016</td>
<td>Homeostasis regulation, Ch. 13; Exam 2 (Thursday)</td>
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<td>10</td>
<td>3/29/2016; 3/31/2016</td>
<td>Spring Brake-No class</td>
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<tr>
<td>11</td>
<td>4/5/2016; 4/7/2016</td>
<td>Autonomic system and stress, Ch. 15</td>
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<td>12</td>
<td>4/12/2016; 4/14/2016</td>
<td>The immune system and sickness behavior</td>
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<td>13</td>
<td>4/19/2016; 4/21/2016</td>
<td>Learning and memory, Ch. 17</td>
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<td>14</td>
<td>4/26/2016; 4/28/2016</td>
<td>Exam 3 (Tuesday); Group project presentations (Thursday)</td>
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<tr>
<td>15</td>
<td>5/3/2016; 5/5/2016</td>
<td>Group project presentations</td>
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<tr>
<td>16</td>
<td>5/10/2016; 5/12/2016</td>
<td>Group project presentations; Course review, open to questions.</td>
</tr>
<tr>
<td>17</td>
<td>5/19/2016</td>
<td>Final exam (Thursday) 7:15-9:30am</td>
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